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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,057	08/15/2001	Thomas Lechner	450117-03517	1174

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EXAMINER	
WOZNIAK, JAMES S	

ART UNIT	PAPER NUMBER
2655	

DATE MAILED: 06/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/930,057	LECHNER, THOMAS	
	Examiner	Art Unit	
	James S. Wozniak	2655	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *03 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *03 August 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. In response to the office action from 5/8/2004, the applicant has submitted an amendment, filed 8/3/2004, amending the drawings and claims 1-3, 5, 8, 11-13, 15, and 18, while arguing to traverse the art rejection based on the limitation regarding a sound waveform generated by digitally sampling a frequency distribution for use in pitch modification *(Amendment, Pages 10-11)*. The applicant's arguments have been fully considered but are moot with respect to the new grounds of rejection in view of Lindgren *(WO 99/65221)*.

2. Based on the amendments to the drawings, the examiner has withdrawn the previous objections directed towards minor informalities.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. **Claims 1-3, 7-10, 11-13, and 17-20** are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima *(EP 0795845)* in view of Lindgren *(WO 99/65221)*.

With respect to **Claims 1 and 11**, Morishima discloses:

Sound generating device for a mobile terminal of a wireless telecommunication system, with:

Memory means for storing waveforms, each waveform corresponding to a sound and each waveform comprising a predetermined number of samples *(musical note data stored in a memory, Col. 4, Lines 35-37)*,

Selecting means (3) for selecting a sound and a pitch for said sound to be generated *(user ability to compose a melody, Col. 1, Lines 33-36, utilizing the scale map of Fig. 3, containing note and tone data)*,

Calculating means (6) for calculating, on the basis of a preset calculation rule, a sound table from the samples of the waveform of a selected sound *(preliminary formulation of a scale map containing combined tone and note information, Col. 4, 27-39, and Fig. 3)*,

Reading means (8) for reading out a part of the samples from said calculated sound table depending on said selected pitch for said sound *(CPU for processing note and tone data for melody production based upon information read from the scale map, Col. 7, Lines 45-53)*, and

Output means (2) for outputting a sound on the basis of said part of samples read out from said reading means *(generation of a musical note with tone data, Col. 7, Lines 53-56, using a loudspeaker, Fig. 2, Element 11)*.

Morishima does not teach that the musical notes are sound waveforms generated by digitally sampling a frequency distribution, however Lindgren recites:

Memory means for storing sounds in the form of waveforms, so that each waveform corresponds to a sound, wherein each sound has a typical frequency distribution and digitally

sampling such a frequency distribution with a predetermined number of samples gives a waveform *(Page 6, Line 17- Col. 7, Line 25)*;

Morishima and Lindgren are analogous art because they are from a similar field of endeavor in pitch alteration of a telephone ringtone. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to modify the teaching of Morishima with the means for generating musical notes by digitally sampling a frequency distribution with a predetermined number of samples to provide a means of efficiently creating a high quality initial ringtone without having to utilize a keyboard *(Lindgren, Page 8, Lines 1-3)*.

With respect to **Claims 2 and 12**, Lindgren further teaches waveform samples created from a single input period *(Page 6, Line 17- Col. 7, Line 25)*.

With respect to **Claim 3 and 13**, Morishima in view of Lindgren teaches the ring tone generation system utilizing a scale map containing tone and note data, as applied to Claims 1 and 11. Morishima in view of Lindgren does not specifically suggest that each note waveform consists of 51 samples, however, it would have bee an obvious matter of design choice to utilize 51 samples for a note waveform, since the applicant has not disclosed that having a specific waveform sample amount of 51 solves any stated problem or is for any particular purpose and it appears that the waveform could be sufficiently represented with an alternate number of samples.

With respect to **Claims 7 and 17**, Morishima recites:

The Sound generating device and method, characterized in, that said reading means reads out every n-th sample from said sound table, n being an integer number *(reading out musical tone information from a scale map according to frequency-time data, Col. 19, Lines 33-42)*.

With respect to **Claims 8 and 18**, Morishima in view of Lindgren teaches the ring tone generation system utilizing a scale map containing tone and note data and featuring reading means for reading out a sound signal, as applied to Claims 7 and 17. Morishima in view of Lindgren does not specifically suggest that the read-out sampling rate depends upon the selected pitch. However, the examiner takes official notice that it is well known in the art to create a higher pitch waveform by skipping more samples (a higher pitch signal has less samples) and a lower frequency signal by reading more samples, so that it would have been obvious to one of ordinary skill in the art, at the time of invention, that the read-out sampling rate would be dependent upon pitch selection.

With respect to **Claims 9 and 19**, Morishima in view of Lindgren teaches the ring tone generation system utilizing a scale map containing tone and note data and featuring reading means for reading out a sound signal, as applied to Claims 7 and 17. Morishima in view of Lindgren does not specifically suggest that the read-out sampling rate increases with ascending notes and is the same for each note in different octaves; however, since the examiner takes official notice that it is well known in the art to create a higher pitch waveform by skipping more samples (a higher pitch signal has less samples) and a low frequency signal by reading more samples, it would have been obvious to one of ordinary skill in the art, at the time of invention, that ascending notes would require the skipping of more samples. Additionally, the memory read-out skipping number would be the same for similar notes in different octaves, with a factor of 2 change in the reading rate for each octave.

With respect to **Claims 10 and 20**, Morishima in view of Lindgren teaches the ring tone generation system utilizing a scale map containing tone and note data and featuring reading

means for reading out a sound signal, as applied to Claims 7 and 17. Morishima in view of Lindgren does not specifically suggest a read-out sampling rate of 8kHz, however, the examiner takes official notice that 8kHz is a sampling rate well known in the art, used in devices such as MP3 players, and thus it would have been obvious to utilize a read-out sampling rate of 8kHz to produce a ring tone sampled at a rate with readily available hardware.

5. **Claims 4-6 and 14-16** are rejected under 35 U.S.C. 103(a) as being unpatentable over Morishima in view of Lindgren, and further in view of Otsuka et al *(U.S. Patent: 6,021,388)*.

With respect to **Claims 4 and 14**, Morishima in view of Lindgren teaches the ring tone generation system utilizing a scale map containing tone and note data, as applied to Claims 1 and 11. Morishima does not teach the generation of a sound table (scale map) using interpolation, however, Otsuka discloses:

The sound-generating device, characterized in, that the calculating means (6) calculates said sound table on the basis of an interpolation calculation *(calculating a waveform containing pitch information through an interpolation technique using an unaltered waveform and a pitch scale, Col. 14, Lines 56-65)*.

Morishima, Lindgren, and Otsuka are analogous art because they are from a similar field of endeavor in pitch alteration of a waveform. Thus, it would have been obvious to a person of ordinary skill in the art, at the time of invention, to combine the means of altering pitch of a waveform using an interpolation technique as taught by Otsuka with the ring tone generation system utilizing a scale map containing tone and note data as taught by Morishima in view of Lindgren to provide a well-known means of inserting pitch information into audio data in order

to create a pitch-altered waveform. Therefore, it would have been obvious to combine Otsuka with Morishima in view of Lindgren for the benefit of obtaining a well-known means of adding pitch information to an audio waveform in a ring tone generator, to obtain the invention as specified in Claims 4 and 14.

With respect to **Claim 5 and 15**, Morishima in view of Lindgren, and further in view of Otsuka teaches the ring tone generation system utilizing a scale map containing tone and note data that is calculated using an interpolation technique, as applied to Claims 4 and 14. in view of Lindgren, and further in view of Otsuka does specifically suggest that the number of interpolated samples between two adjacent samples depends upon the selected pitch, however, the examiner takes official notice that it is well known in the art that higher pitch waveforms require less samples and lower pitch signals require more samples, thus, it would have been obvious to one of ordinary skill in the art, at the time of invention, that the number of calculated interpolated samples would be dependent upon the selected pitch.

With respect to **Claims 6 and 16**, in view of Lindgren, and further in view of Otsuka teaches the ring tone generation system utilizing a scale map containing tone and note data that is calculated using an interpolation technique, as applied to Claims 4 and 14. in view of Lindgren, and further in view of Otsuka does specifically suggest that the number of interpolated samples is the same for each note of an octave and decreases with ascending octaves, however, since the examiner takes official notice that it is well known in the art to create a higher pitch waveform by skipping more samples (a higher pitch signal has less samples), it would have been obvious to one of ordinary skill in the art, at the time of invention, that higher octaves would require less samples than lower octaves. Additionally, the reading rate for each note in an octave would be

the same, with a factor of 2 change between each octave, while the memory read-out skipping number would increase with ascending notes within a single octave.

Conclusion

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Aoki et al *(U.S. Patent: 5,736,663)*- teaches a method that allows a user to change the pitch of a musical waveform template.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to James S. Wozniak whose telephone number is (571) 272-7632 and email is James.Wozniak@uspto.gov. The examiner can normally be reached on Mondays-Fridays, 8:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wayne Young can be reached at (571) 272-7582. The fax/phone number for the Technology Center 2600 where this application is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the technology center receptionist whose telephone number is (703) 306-0377.

W. R. YOUNG
PRIMARY EXAMINER

James S. Wozniak
5/25/2005